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April 14, 2006

SVP-06-023

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Quad Cities Nuclear Power Station, Unit 1
Renewed Facility Operating License No. DPR-29
NRC Docket No. 50-254

Subject: Licensee Event Report 254/06-002, "Automatic Reactor Scram From Turbine/Generator Load Reject due to Degraded Current Transformer Wiring on the Main Power Transformer"

Enclosed is Licensee Event Report (LER) 254/06-002, "Automatic Reactor Scram From Turbine/Generator Load Reject due to Degraded Current Transformer Wiring on the Main Power Transformer," for Quad Cities Nuclear Power Station, Unit 1.

This report is submitted in accordance with the requirements of the Code of Federal Regulations, Title 10, Part 50.73(a)(2)(iv)(A), which requires the reporting of any event or condition that resulted in manual or automatic actuation of the reactor protection system.

Should you have any questions concerning this report, please contact Mr. W. J. Beck at (309) 227-2800.

Respectfully,

Timothy J. Tulon
Site Vice President
Quad Cities Nuclear Power Station

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Quad Cities Nuclear Power Station

IE22

NRC FORM 366 (7-2001)	U.S. NUCLEAR REGULATORY COMMISSION	APPROVED BY OMB NO. 3150-0104 EXPIRES 7-31-2004
LICENSEE EVENT REPORT (LER)		Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Quad Cities Nuclear Power Station Unit 1	05000254	1 of 3

4. TITLE Automatic Reactor Scram From Turbine/Generator Load Reject due to Degraded Current Transformer Wiring on the Main Power Transformer

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
									N/A	N/A
02	22	2006	2006	- 002 -	00	04	14	2006	FACILITY NAME N/A	DOCKET NUMBER N/A

9. OPERATING MODE	1
10. POWER LEVEL	085

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)

20.2201(b)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)
20.2201(d)	20.2203(a)(4)	50.73(a)(2)(iii)	50.73(a)(2)(x)
20.2203(a)(1)	50.36(c)(1)(i)(A)	X 50.73(a)(2)(iv)(A)	73.71(a)(4)
20.2203(a)(2)(i)	50.36(c)(1)(ii)(A)	50.73(a)(2)(v)(A)	73.71(a)(5)
20.2203(a)(2)(ii)	50.36(c)(2)	50.73(a)(2)(v)(B)	OTHER
20.2203(a)(2)(iii)	50.46(a)(3)(ii)	50.73(a)(2)(v)(C)	Specify in Abstract below or in NRC Form 366A
20.2203(a)(2)(iv)	50.73(a)(2)(i)(A)	50.73(a)(2)(v)(D)	
20.2203(a)(2)(v)	50.73(a)(2)(i)(B)	50.73(a)(2)(vii)	
20.2203(a)(2)(vi)	50.73(a)(2)(i)(C)	50.73(a)(2)(viii)(A)	
20.2203(a)(3)(i)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(B)	

12. LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER (Include Area Code)
Wally Beck, Regulatory Assurance Manager	(309) 227-2800

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
B	EL	XFMR	B455	Y					

14. SUPPLEMENTAL REPORT EXPECTED			15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X	NO				

16. ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On February 22, 2006, at 0122 hours, an automatic reactor scram occurred on Unit 1 in response to a turbine/generator load reject due to a trip of the main power transformer (MPT) 'B' phase differential overcurrent relay. The relay trip was caused by degraded wiring insulation, resulting in a ground in the current transformer 'C' phase wiring at a box mounted on the MPT. The degraded wiring insulation resulted in a direct short to ground and resultant trip of the protective differential overcurrent relay.

All control rods inserted to the full-in position. The reactor was brought to the hot shutdown condition using normal methods and was maintained in hot shutdown during investigation and repair of the MPT issue until the reactor was returned to power operation on February 24, 2006.

The degraded wiring insulation was caused by inadequate MPT wiring assembly design and installation. Corrective actions include repair of degraded wiring, inspection of accessible wiring and design changes.

PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor, 2957 Megawatts Thermal Rated Core Power

Energy Industry Identification System (EIIS) codes are identified in the text as [XX].

EVENT IDENTIFICATION

Automatic Reactor Scram From Turbine/Generator Load Reject due to Degraded Current Transformer Wiring on the Main Power Transformer

A. CONDITION PRIOR TO EVENT

Unit: 1 Event Date: February 22, 2006 Event Time: 0122 hours
Reactor Mode: 1 Mode Name: Power Operation Power Level: 085%

B. DESCRIPTION OF EVENT

On February 22, 2006, at 0122 hours, an automatic reactor scram occurred on Quad Cities Nuclear Power Station Unit 1 in response to a turbine/generator [TG] load reject.

The event was initiated by a trip of the main power transformer (MPT) [XFMR] [EL] 'B' phase differential overcurrent relay [87]. The relay trip was caused by degraded wiring insulation, resulting in a ground in the current transformer (CT) 'C' phase wiring at a box mounted on the MPT. The degraded wiring insulation resulted in a direct short to ground at or near the box in the associated conduit run and a resultant trip of the protective differential overcurrent relay.

All control rods inserted to the full-in position. The reactor was brought to the hot shutdown condition using normal methods and was maintained in hot shutdown during investigation and repair of the MPT issue until the reactor was returned to power operation on February 24, 2006. The plant operated as designed with no abnormal issues or failures, with one exception. The fire deluge on the MPT, expected to actuate during a differential overcurrent trip, did not actuate.

C. CAUSE OF EVENT

The degraded wiring insulation in the CT was caused by the fact that the MPT wiring design and installation of the wiring assembly (interconnection boxes, conduit, pull-boxes, and wiring) was not adequate to support design life of the transformer. Vibration of certain conduits, pull-boxes, interconnection boxes, and control boxes resulted in abnormal wear of the wiring insulation.

The failure of the MPT deluge to activate was due to a cross-threaded screw on the deluge contact on the differential overcurrent relay that had become loose over time.

D. SAFETY ANALYSIS

The safety significance of this event was minimal. All control rods inserted to the full-in position. The reactor was brought to the hot shutdown condition using normal methods and was maintained in hot shutdown during investigation and repair of the MPT issue until the reactor was returned to power operation.

An Emergency Notification System call was made at 0351 hours on February 22, 2006, in accordance with 10 CFR 50.72(b)(2)(iv)(B), Reactor Protection System Actuation. This report is being made in accordance with 10 CFR 50.73(a)(2)(iv)(A), as an event or condition that resulted in manual or automatic actuation of the reactor protection system.

E. CORRECTIVE ACTIONS

Corrective Actions Completed:

New external CT wiring was routed and tested prior to reactor startup.

The MPT sudden pressure relay (SPR) trip wiring was inspected to the extent possible and practical, and insulation degradation identified was repaired.

The wiring for the MPT coolers was inspected to the extent possible and practical, and insulation degradation identified was repaired.

The differential overcurrent relay was replaced.

Corrective Actions to be Completed:

Unit 1 MPT SPR and cooler group wiring will be re-wired to bypass the suspect wiring. A spare Unit 2 MPT of a different design has been installed during the recent spring refueling outage; therefore the condition of the wiring on the Unit 2 MPT is not in question.

The design specifications for the Unit 1 MPT will be upgraded to ensure the MPT electrical assembly will operate for its design life.

F. PREVIOUS OCCURRENCES

No reportable instances of worn wiring on an MPT were identified at Quad Cities Nuclear Power Station for the last three years. However, there have been non-reportable instances of evidence of damaged or degraded wiring since the installation of the Unit 1 MPT in March 2005. These instances were primarily in three specific cooling banks, and corrective actions specific to the events were implemented.

G. COMPONENT FAILURE DATA

The Unit 1 MPT is a new transformer that was manufactured by ABB at the Cordoba, Spain, factory (serial # 63006, manufacturing date 2002), and was installed at Quad Cities Nuclear Power Station in March 2005.